

SEQUENCE LISTING

SEQ ID NO: 1

LENGTH: 1447

TYPE: nucleic acid

5 STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: DNA

## SEQUENCE DESCRIPTION:

GAATTCGGG AAOGAATAAT TATTATTAGC AATTATTAGC GATCAATAAT CTTGATCACA TT 62

10 ATG GCA AGC ACT ATT AAG GAA GCA TTA TCA GTG GTG AGT GAA GAC CAG 110

TCC TTG TTT GAG TGT GCC TAC GGA TGG CCC CAC CTT GCA AAG ACA GAA 158

ATG ACA GGC TCC TCT TCC AGT GAA TAT GGG CAA ACA TCA AAG ATG AGC 206

CGG CGC GTT CCC CAG CAG GAC TGG TTA TCA CAG CCC CGG GGC AGA GTT 254

ACC ATT AAG ATG GAG TGT AAC CCA AAC CAG GTT AAT GGG TCA AGG AAT 302

TCA CCT GAT GAC TGC AGC GTG GCA AAA GGA GGG AAA ATG GTT AGC AGT 350

TCA GAC AAT GTT GGG ATG AAC TAT GGA AGC TAC ATG GAA GAG AAG CAT 398

ATT CCG CCT CCA AAT ATG ACA ACC AAT GAA CGA AGA GTT ATT GTG CCA 446

GCA GAT CCT ACG TTA TGG AGC ACA GAC CAT GTC CGG CAG TGG CTG GAG 494

TGG GCA GTG AAG GAG TAT GGT CTT CCA GAC GTG GAC ATC TTG TTG TTC 542

20 CAG AAC ATT GAT GGG AAA GAG TTG TGT AAA ATG ACC AAA GAT GAC TIC 590

CAG AGA CTC ACG CGG AGC TAT AAC GCA GAT ATC CTC CTG TCA CAC CTA 638

CAC TAC CTC AGA GAG AGA CGA GGC ACT TTT ATT TTT CCA AAT ACA TCA 686

GTT TAC CCA GAA GCA ACG CAA AGA ATA ACA ACA AGG CCA GAT TTA CCT 734

TAT GAG CAA CGG AGG AGA TCA CGG TGG ACG AGT CAC AGC CAT CCC ACT 782

25 CAG TCA AAA GCT ACC CAA CCA CCA TCA TCT TCA ACA GTG CCC AAA ACA GAA 830

GAC CAG CGT CCT CAG TTA GAT CCT TAT CAG ATT CTT GGA CGG ACC AGC 878

	AGC CGT CTT GCA AAT GCA GGG AGT GGG CAG ATA CAG CTA TGG CAG TTC	926
	CTA CTT CAG GAG CTT CTT GAC AGC TCC AAC TCC AAC TGC ATC ACC TGG	974
	GAG GCC ACA AAT GGG GAG TTC AAG ATG ACA GAC CCT GAT GAA GTG GCT	1022
	CGG CGT TGG GGA GAG AGG AAA AGC AAA CCT AAC ATG AAC TAT GAC AAA	1070
5	CTC AGC CGT GCA CTT CGC TAC TAC TAT GAC AAA AAT ATT ATG ACT AAA	1118
	GTT CAT CGT AAA CGC TAT GCC TAC AAA TTT GAT TTC CAC GGA ATC GCT	1166
	CAG GCC CTC CAG CCT CAC CCT CCA GAA TCA TCC ATG TAC AAA TAC CCA	1214
	TCA GAC CTC CCC TAC ATG AGT TCC TAC CAT GCA CAC CCC CAG AAG ATG	1262
	AAC TTT GTC GCT CCC CAT CCC CCT GCT TTG CCC GTC ACC TCA TCC AGC	1310
10	TTT TTT CCT GCC CCT AAT CCA TAC TGG AAT TCA CCA ACT GGA GGC ATC	1358
	TAC CCC AAT ACC AGG CTG CCA GCT GCT CAT ATG CCT TCC CAT CTT GGC	1406
	ACC TAC TAC TAA GTG GGGAAAGAAA GAAAGGGCCA AGAAAA	1447

15 SEQ ID NO: 2

LENGTH: 451

TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: peptide

20 SEQUENCE DESCRIPTION:

	Met Ala Ser Thr Ile Lys Glu Ala Leu Ser Val Val Ser Glu Asp Gln	16
	Ser Leu Phe Glu Cys Ala Tyr Gly Ser Pro His Leu Ala Lys Thr Glu	32
25	Met Thr Ala Ser Ser Ser Glu Tyr Gly Gln Thr Ser Lys Met Ser	48
	Pro Arg Val Pro Gln Gln Asp Trp Leu Ser Gln Pro Pro Ala Arg Val	64

	Thr Ile Lys Met Glu Cys Asn Pro Asn Gln Val Asn Gly Ser Arg Asn	80
	Ser Pro Asp Asp Cys Ser Val Ala Lys Gly Gly Lys Met Val Ser Ser	96
	Ser Asp Asn Val Gly Met Asn Tyr Gly Ser Tyr Met Glu Glu Lys His	112
	Ile Pro Pro Pro Asn Met Thr Thr Asn Glu Arg Arg Val Ile Val Pro	128
5	Ala Asp Pro Thr Leu Trp Ser Thr Asp His Val Arg Gln Trp Leu Glu	144
	Trp Ala Val Lys Glu Tyr Gly Leu Pro Asp Val Asp Ile Leu Leu Phe	160
	Gln Asn Ile Asp Gly Lys Glu Leu Cys Lys Met Thr Lys Asp Asp Phe	176
	Gln Arg Leu Thr Pro Ser Tyr Asn Ala Asp Ile Leu Leu Ser His Leu	192
	His Tyr Leu Arg Glu Arg Gly Ala Thr Phe Ile Phe Pro Asn Thr Ser	208
10	Val Tyr Pro Glu Ala Thr Gln Arg Ile Thr Thr Arg Pro Asp Leu Pro	224
	Tyr Glu Gln Ala Arg Arg Ser Ala Trp Thr Ser His Ser His Pro Thr	240
	Gln Ser Lys Ala Thr Gln Pro Ser Ser Ser Thr Val Pro Lys Thr Glu	256
	Asp Gln Arg Pro Gln Leu Asp Pro Tyr Gln Ile Leu Gly Pro Thr Ser	272
	Ser Arg Leu Ala Asn Pro Gly Ser Gly Gln Ile Gln Leu Trp Gln Phe	288
15	Leu Leu Glu Leu Leu Ser Asp Ser Ser Asn Ser Asn Cys Ile Thr Trp	304
	Glu Gly Thr Asn Gly Glu Phe Lys Met Thr Asp Pro Asp Glu Val Ala	320
	Arg Arg Trp Gly Glu Arg Lys Ser Lys Pro Asn Met Asn Tyr Asp Lys	336
	Leu Ser Arg Ala Leu Arg Tyr Tyr Asp Lys Asn Ile Met Thr Lys	352
	Val His Gly Lys Arg Tyr Ala Tyr Lys Phe Asp Phe His Gly Ile Ala	368
20	Gln Ala Leu Gln Pro His Pro Pro Glu Ser Ser Met Tyr Lys Tyr Pro	384
	Ser Asp Leu Pro Tyr Met Ser Ser Tyr His Ala His Pro Gln Lys Met	400
	Asn Phe Val Ala Pro His Pro Pro Ala Leu Pro Val Thr Ser Ser Ser	416
	Phe Phe Ala Ala Pro Asn Pro Tyr Trp Asn Ser Pro Thr Gly Gly Ile	432
	Tyr Pro Asn Thr Arg Leu Pro Ala Ala His Met Pro Ser His Leu Gly	448
25	Thr Tyr Tyr	451

SEQ ID NO: 3

LENGTH: 1528

TYPE: nucleic acid

STRANDEDNESS: single

5 TOPOLOGY: linear

MOLECULE TYPE: DNA

SEQUENCE DESCRIPTION:

10	GAATTCCGCG AAOGAATAAT TATTATTAGC AATTATTAGC GATCAATAAT CTTGATCACA TT	62
	ATG GCA ACC ACT ATT AAG GAA GCA TTA TCA GTG GTG AGT GAA GAC CAG	110
	TCC TIG TTT GAG TGT GCC TAC GGA TOG CCC CAC CTT GCA AAG ACA GAA	158
	ATG ACA GCA TCC TCT TCC AGT GAA TAT GGG CAA ACA TCA AAG ATG AGC	206
	CCG CGC GIT CCC CAG CAG GAC TGG TTA TCA CAG CCC CCG GCC AGA GIT	254
15	ACC ATT AAG ATG GAG TGT AAC CCA AAC CAG GTT AAT GGG TCA AGG AAT	302
	TCA CCT GAT GAC TGC AGC GTG GCA AAA GGA GGG AAA ATG GIT AGC AGT	350
	TCA GAC AAT GIT GGG ATG AAC TAT GGA AGC TAC ATG GAA GAG AAG CAT	398
	ATT CCG CCT CCA AAT ATG ACA ACC AAT GAA CGA AGA GIT ATT GTG CCA	446
	GCA GAT CCT ACG TTA TGG AGC ACA GAC CAT GIA CGG CAG TGG CTG GAG	494
20	TGG GCA GTG AAG GAG TAT GGT CTT CCA GAC GTG GAC ATC TIG TTG TTC	542
	CAG AAC ATT GAT GGG AAA GAG TTG TGT AAA ATG ACC AAA GAT GAC TTC	590
	CAG AGA CTC ACG CGG AGC TAT AAC GCA GAT ATC CTC CTG TCA CAC CTA	638
	CAC TAC CTC AGA GAG ACT CCT CTT CCA CAT TTG ACT TCA GAT GAT GIT	686
	GAT AAG GCC TTA CAA AAC TCT CCA CGG TTA ATG CAT GCT AGA AAC ACA	734
25	GGA GGA GCC ACT TTT ATT TTT CCA AAT ACA TCA GTT TAC CCA GAA GCA	782
	ACG CAA AGA ATA ACA ACA AGG CCA GAT TTA CCT TAT GAG CAA CGG AGG	830

	AGA-TCA GCG TGG ACG AGT CAC AGC CAT CCC ACT CAG TCA AAA GCT ACC	878
	CAA CCA TCA TCT TCA ACA GTG CCC AAA ACA GAA GAC CAG CGT CCT CAG	926
	TTA GAT CCT TAT CAG ATT CCT GGA CGG ACC AGC AGC CGT CCT GCA AAT	974
	CCA GGG AGT GGG CAG ATA CAG CTA TGG CAG TTC CTA CTG GAG CCT CTG	1022
5	TCG GAC AGC TCC AAC TCC AAC TGC ATC ACC TGG GAG GGC ACA AAT GGG	1070
	GAG TTC AAG ATG ACA GAC CCT GAT GAA GTG GCT CGG CGT TGG GGA GAG	1118
	AGG AAA AGC AAA CCT AAC ATG AAC TAT GAC AAA CTC AGC CGT GCA CCT	1166
	CGC TAC TAC TAT GAC AAA AAT ATT ATG ACT AAA GTT CAT GGT AAA CGC	1214 •
	TAT GGC TAC AAA TTT GAT TTC CAC GGA ATC GCT CAG GGC CTC CAG CCT	1262
10	CAC CCT CCA GAA TCA TCC ATG TAC AAA TAC CCA TCA GAC CTC CCC TAC	1310
	ATG AGT TCC TAC CAT GCA CAC CCC CAG AAG ATG AAC TTT GTC GCT CCC	1358
	CAT CCC CCT GCT TTG CCC GTC ACC TCA TCC AGC TTT TTT GCT GGC CCT	1406
	AAT CCA TAC TGG AAT TCA CCA ACT GGA GGC ATC TAC CCC AAT ACC AGG	1454
	CTG CCA GCT GCT CAT ATG CCT TCC CAT CCT GGC ACC TAC TAC TAA GTG	1502
15	GGGAAAGAAA GAAAGGGCCA AGAAAA	1528

SEQ ID NO: 4

LENGTH: 478

20 TYPE: amino acid

TOPOLOGY: linear

MOLECULE TYPE: peptide

SEQUENCE DESCRIPTION:

25

Met Ala Ser Thr Ile Lys Glu Ala Leu Ser Val Val Ser Glu Asp Gln 16

	Ser Leu Phe Glu Cys Ala Tyr Gly Ser Pro His Leu Ala Lys Thr Glu	32
	Met Thr Ala Ser Ser Ser Glu Tyr Gly Gln Thr Ser Lys Met Ser	48
	Pro Arg Val Pro Gln Gln Asp Trp Leu Ser Gln Pro Pro Ala Arg Val	64
	Thr Ile Lys Met Glu Cys Asn Pro Asn Gln Val Asn Gly Ser Arg Asn	80
5	Ser Pro Asp Asp Cys Ser Val Ala Lys Gly Gly Lys Met Val Ser Ser	96
	Ser Asp Asn Val Gly Met Asn Tyr Gly Ser Tyr Met Glu Glu Lys His	112
	Ile Pro Pro Pro Asn Met Thr Thr Asn Glu Arg Arg Val Ile Val Pro	128
	Ala Asp Pro Thr Leu Trp Ser Thr Asp His Val Arg Gln Trp Leu Glu	144
10	Trp Ala Val Lys Glu Tyr Gly Leu Pro Asp Val Asp Ile Leu Leu Phe	160
	Gln Asn Ile Asp Gly Lys Glu Leu Cys Lys Met Thr Lys Asp Asp Phe	176
	Gln Arg Leu Thr Pro Ser Tyr Asn Ala Asp Ile Leu Leu Ser His Leu	192
	His Tyr Leu Arg Glu Thr Pro Leu Pro His Leu Thr Ser Asp Asp Val	208
	Asp Lys Ala Leu Gln Asn Ser Pro Arg Leu Met His Ala Arg Asn Thr	224
	Gly Gly Ala Thr Phe Ile Phe Pro Asn Thr Ser Val Tyr Pro Glu Ala	240
15	Thr Gln Arg Ile Thr Thr Arg Pro Asp Leu Pro Tyr Glu Gln Ala Arg	256
	Arg Ser Ala Trp Thr Ser His Ser His Pro Thr Gln Ser Lys Ala Thr	272
	Gln Pro Ser Ser Ser Thr Val Pro Lys Thr Glu Asp Gln Arg Pro Gln	288
	Leu Asp Pro Tyr Gln Ile Leu Gly Pro Thr Ser Ser Arg Leu Ala Asn	304
	Pro Gly Ser Gly Gln Ile Gln Leu Trp Gln Phe Leu Leu Glu Leu Leu	320
20	Ser Asp Ser Ser Asn Ser Asn Cys Ile Thr Trp Glu Gly Thr Asn Gly	336
	Glu Phe Lys Met Thr Asp Pro Asp Glu Val Ala Arg Arg Trp Gly Glu	352
	Arg Lys Ser Lys Pro Asn Met Asn Tyr Asp Lys Leu Ser Arg Ala Leu	368
	Arg Tyr Tyr Tyr Asp Lys Asn Ile Met Thr Lys Val His Pro Pro Glu	384
	Ser Ser Met Tyr Lys Tyr Pro Ser Asp Leu Pro Tyr Met Ser Ser Tyr	400
25	His Gly Lys Arg Tyr Ala Tyr Lys Phe Asp Phe His Gly Ile Ala Gln	416
	Ala Leu Gln Pro His Ala His Pro Gln Lys Met Asn Phe Val Ala Pro	432

His Pro Pro Ala Leu Pro Val Thr Ser Ser Ser Phe Phe Ala Ala Pro 448  
Asn Pro Tyr Trp Asn Ser Pro Thr Gly Gly Ile Tyr Pro Asn Thr Arg 464  
Leu Pro Ala Ala His Met Pro Ser His Leu Gly Thr Tyr Tyr 478

5

SEQ ID NO: 5

LENGTH: 23

TYPE: nucleic acid

STRANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: DNA

SEQUENCE DESCRIPTION:

ATCTTGATCA CATTATGGCA AGC 23

15

SEQ ID NO: 6

LENGTH: 25

TYPE: nucleic acid

STRANDEDNESS: single

TOPOLOGY: linear

20

MOLECULE TYPE: DNA

SEQUENCE DESCRIPTION:

CACATTATGG CAAGCACTAT TAAGG 25

25

SEQ ID NO: 7

LENGTH: 25

TYPE: nucleic acid

CGS 97-01

STANDEDNESS: single

TOPOLOGY: linear

MOLECULE TYPE: DNA

**SEQUENCE DESCRIPTION:**

5

CACTTAGTGTAG TAGGTGCGCAA GATGG 25